Application No. 09/890,672 Amdt. Date July 28, 2003 Reply to Official Action of March 26, 2003

Amendments to the Claims

The listing of the claims will replace all prior versions, and listings, of claims in this application:

Listing of Claims:

- 1. (Currently Amended) A liquid dishwashing detergent composition suitable for use in hand dishwashing, said composition comprising characterized by:
- (a) a low molecular weight organic diamine having a pK1 and a pK2, wherein the pK1 and the pK2 of said diamine are both in the range of from 8.0 to 11.5;
 - (b) an anionic surfactant;
 - (c) an amphoteric surfactant; and
- (d) a solvent selected from the group consisting of a diol, a polymeric glycol and mixtures thereof wherein said diol is selected from the group consisting of:

OH
$$R_7$$
 OH H_2C — $(--C$ — $)_n$ — C — R_8 R_7 H

wherein n = 0- 3, $R_7 = H$, methyl or ethyl; and $R_8 = H$, methyl, ethyl, propyl, isopropyl, butyl and isoubutyl isobutyl; and wherein the polymeric glycol is selected from the group consisting of:

$$(PO)_x (EO)_y H$$

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wherein PO represents a propylene oxide group and EO represents an ethylene oxide group and x+y is from 17 to 68, and x/(x+y) is from 0.25 to 1.0; and

wherein the pH (as measured as 10% aqueous solution) is from 5.0 to 12.5 and wherein the mole ratio of said anionic surfactant to said amphoteric surfactant to said diamine is from 100:40:1 to 9:0.5:1.

- 2. (Currently Amended) A liquid dishwashing detergent composition according to Claim 1 further comprising characterized by a buffering agent and wherein the composition has a pH of from 10 to 11.5.
- 3. (Previously Amended) A liquid dishwashing detergent composition according to Claim 2 wherein the diol is selected from the group consisting of propylene glycol, 1,2 hexandiol, 2-ethyl-1,3-hexandiol and 2,2,4-trimethyl-1,3-pentanediol and mixtures thereof.
- 4. (Previously Amended) A liquid dishwashing detergent composition according to Claim 3 wherein the polymeric glycol is polypropylene glycol having a molecular weight of from 1000 to 5000.
 - 5. (Previously Amended) A liquid dishwashing detergent composition according to Claim 4 wherein said diamine is selected from the group consisting of:

$$R_2$$
 C_X A C_V R_4 R_5

wherein R_{2-5} are independently selected from H, methyl, ethyl, and ethylene oxides; C_x and C_v are independently selected from methylene groups or branched alkyl groups where x+v is from 3 to 6; and A is optionally present and is selected from electron donating or withdrawing moieties chosen to adjust the diamine pKa's to the desired range; wherein if A is present, then both x and y must be 2 or greater.

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- 6. (Previously Amended) A liquid dishwashing detergent composition according to Claim 5 wherein the polymeric glycol is polypropylene glycol having a molecular weight of from 2000 to 4000 and is present in a range of from 0.25% to 5.0%, by weight of the composition.
- 7. (Currently Amended) A liquid dishwashing detergent composition according to Claim 6 further comprising characterized by a polymeric suds stabilizer selected from the group consisting of:
 - (i) homopolymers of (N,N-dialkylamino)alkyl acrylate esters having the formula:

$$\begin{array}{c|c}
R^1 \\
R \\
N-(CH_2)_{n}-O \\
\end{array}$$

wherein each R is independently hydrogen, C_1 - C_8 alkyl, and mixtures thereof, R^1 is hydrogen, C_1 - C_6 alkyl, and mixtures thereof, n is from 2 to 6; and

(ii) copolymers of (i) and

wherein R¹ is hydrogen, C1-C6 alkyl, and mixtures thereof; provided that the ratio of (ii) to (i) is from 2 to 1 to 1 to 2; and wherein said polymeric suds stabilizer has a molecular weight of from 1,000 to 2,000,000 daltons.

8. (Currently Amended) The liquid dishwashing detergent composition according to Claim 7 further comprising characterized by an α-amylases-having a specific

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activity at least 25% higher than the specific activity of Termamyl® at a temperature range of 25°C to 55°C and at a pH value in the range of 8 to 10, measured by the Phadebas® α-amylase activity assay.

- 9. (Currently Amended) A method for cleaning a substrate in a manual dishwashing operation comprising characterized by the steps of:
- (a) contacting the substrate with a liquid dishwashing detergent composition prepared according to claim 1; and
- (b) allowing the detergent composition to remain in contact with the substrate for a sufficient time to provide effective cleaning benefits to the substrate.
- 10. (Previously Amended) A method according to Claim 9, wherein the liquid dishwashing detergent composition is applied to the substrate with no more than 90% dilution with water.
- 11. (New) The liquid dishwashing composition according to Claim 1, wherein the solvent is a diol and wherein the diol is selected from the group of:



$$\begin{array}{cccc} \text{OH} & R_7 & \text{OH} \\ I & I & I \\ H_2C - (-C -)_n - C - R_8 \\ I & I \\ R_7 & H \end{array}$$

wherein n = 0-3, $R_7 = H$, methyl or ethyl; and $R_8 = H$, methyl, ethyl, propyl, isopropyl, butyl and isobutyl.

12. (New) The liquid dishwashing composition according to Claim 1, wherein the polymeric glycol is polypropylene glycol.

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- 13. (New) The liquid dishwashing composition according to Claim 1, wherein the composition comprises from about 0.1% to about 20% by weight of composition of amphoteric surfactant.
- 14. (New) The liquid dishwashing composition according to Claim 1, wherein the composition comprises from about 5% to about 50% by weight of composition of anionic surfactant.
- 15. (New) The liquid dishwashing composition according to Claim 1, wherein the composition comprises from about 0.1% to about 5% by weight of composition of diamine, which has a molecular weight of less than or equal to 400 g/mol.
- 16. (New) The liquid dishwashing composition according to Claim 1, wherein the composition comprises from about 0.5% to about 25.0% by weight of composition of solvent.
- 17. (New) A liquid dishwashing detergent composition suitable for use in hand dishwashing, said composition comprising:
- (a) from 0.1% to about 5% by weight of a low molecular weight organic diamine having a molecular weight of less than or equal to 400g/mol and a pK1 and a pK2, wherein the pK1 and pK2 of said diamines are both in the range of from 8.0 to 11.5;
 - (b) from about 5% to about 50% by weight of an anionic surfactant;
 - (c) from about 0.1% to about 20% by weight of an amphoteric surfactant; and
 - (d) from about 0.50% to about 25.0% by weight of a polypropylene glycol solvent.

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